

What is Claimed is:

1. A fuse barrier for a fuse electrically connected between a first low voltage power bus and a second low voltage power bus, said fuse having a non-interrupted state and an interrupted state, said fuse barrier comprising:

a spring including a first portion and a second portion;

a fastener adapted to connect the first portion of said spring to one of said first low voltage power bus and said second low voltage power bus; and

an insulating barrier disposed from the second portion of said spring, said insulating barrier being adapted to engage a portion of said fuse in the non-interrupted state thereof, said spring being adapted to drive a portion of said insulating barrier through said fuse in the interrupted state thereof.

2. The fuse barrier of Claim 1 wherein said insulating barrier is made of an arc suppressing material.

3. The fuse barrier of Claim 2 wherein said arc suppressing material is selected from the group comprising fiber reinforced plastic resin, plastic resin coated fabric, vulcanized fabric and fiber reinforced polyester laminate.

4. The fuse barrier of Claim 2 wherein the arc suppressing material of said insulating barrier is adapted to prevent an arc from passing between said first low voltage power bus and said second low voltage power bus as said fuse transitions from said non-interrupted state to said interrupted state, in order to minimize dispersion of vaporized materials and molten portions from said fuse.

5. The fuse barrier of Claim 4 wherein said insulating barrier and the arc suppressing material of said insulating barrier are adapted to prevent said arc from passing through or around said insulating barrier.

6. The fuse barrier of Claim 1 wherein the second portion of said spring is a second end; and wherein said spring includes at least one fastener, which connects the second end of said spring to said insulating barrier.

7. The fuse barrier of Claim 6 wherein the first portion of said spring is a first end; and wherein said insulating barrier includes a first end and a second end, the first end of said insulating barrier including said portion of said insulating barrier, which is adapted to drive through said fuse in the interrupted state

thereof, the second end of said insulating barrier being connected to the second end of said spring by said at least one fastener.

8. The fuse barrier of Claim 1 wherein said fuse is directly electrically and mechanically connected to both of said first low voltage power bus and said second low voltage power bus.

9. A fuse barrier for a fuse electrically connected between a first low voltage power bus and a second low voltage power bus, said fuse having a non-interrupted state and an interrupted state, said fuse barrier comprising:

a spring including a first end and a second end;

means for disposing the first end of said spring from one of said first low voltage power bus and said second low voltage power bus; and

an insulating barrier disposed from the second end of said spring, said insulating barrier being adapted to engage a portion of said fuse in the non-interrupted state thereof, said spring being adapted to drive a portion of said insulating barrier through said fuse in the interrupted state thereof.

10. The fuse barrier of Claim 9 wherein said means for disposing includes at least one fastener, which is adapted to connect the first end of said spring to said one of said first low voltage power bus and said second low voltage power bus.

11. The fuse barrier of Claim 9 wherein said means for disposing includes at least one fastener, which is adapted to connect the first end of said spring to said first low voltage power bus, and which is also adapted to engage a heat sink.

12. A power circuit comprising:

a first low voltage power bus;

a second low voltage power bus;

a fuse electrically connected between said first low voltage power bus and said second low voltage power bus, said fuse having a non-interrupted state and an interrupted state; and

a fuse barrier comprising:

a spring including a first end and a second end,

a fastener connecting the first end of said spring to one of said first low voltage power bus and said second low voltage power bus, and

an insulating barrier disposed from the second end of said spring, said insulating barrier engaging a portion of said fuse in the non-interrupted state thereof, said spring driving a portion of said insulating barrier through said fuse in the interrupted state thereof.

13. The power circuit of Claim 12 wherein said fuse includes a length between said first low voltage power bus and said second low voltage power bus; wherein said fuse also includes a width, which is normal to said length; and wherein the portion of said insulating barrier has a width, which is about equal to or greater than the width of said fuse.

14. The power circuit of Claim 13 wherein the portion of said insulating barrier further has a thickness of about 0.125 in. to about 0.250 in.

15. The power circuit of Claim 14 wherein said first low voltage power bus is separated from said second low voltage power bus by about 1.0 in.

16. The power circuit of Claim 12 wherein said fuse is selected from the group comprising a copper Y fuse link, a copper Z fuse link and an S fuse link.

17. The power circuit of Claim 12 wherein said fuse is a generally planar member.

18. The power circuit of Claim 12 wherein said fuse is a laminated member including a U-shape, a first leg portion and a second leg portion, said first leg portion being electrically and mechanically connected to said first low voltage power bus, said second leg portion being electrically and mechanically connected to said second low voltage power bus; wherein the portion of said insulating barrier engages the U-shape of said fuse in the non-interrupted state thereof; and wherein said spring drives the portion of said insulating barrier through the U-shape of said fuse in the interrupted state thereof.

19. The power circuit of Claim 18 wherein said spring biases said portion of said insulating barrier against the U-shape of said fuse in the non-interrupted state thereof; wherein said fuse melts and vaporizes between said non-interrupted state and said interrupted state; and wherein said spring drives said insulating barrier through said fuse as said fuse transitions from said non-interrupted

state to said interrupted state, in order to minimize dispersion of vaporized materials and molten portions from said fuse.

20. The power circuit of Claim 12 wherein said fuse has a first end electrically and mechanically connected to said first low voltage power bus and an opposite second end electrically and mechanically connected to said second low voltage power bus; wherein said fuse melts and vaporizes between said non-interrupted state and said interrupted state; wherein a gap is formed in said fuse as said fuse melts and vaporizes; and wherein said insulating barrier is driven by said spring between the first and second ends of said fuse after said gap is formed, in order to allow the portion of said insulating barrier to pass through the gap of said fuse in the interrupted state thereof.

21. The power circuit of Claim 12 wherein said fuse has a first end, which is electrically and mechanically connected to a first heat sink, which is electrically and mechanically connected to said first low voltage power bus; and wherein said fuse also has a second end, which is electrically and mechanically connected to a second heat sink, which is electrically and mechanically connected to said second low voltage power bus.